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DATE: 12/1/97 TOTAL NUMBER OF PAGES: 3 (including this cover sheet) TIME:

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MESSAGE:

Enclosed is the University of California comments on ET Docket 97-214 (FCC 97-363). We are sending the nine copies for Commission dissemination via regular mail.

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December 1, 1997

Office of the Secretary
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Comments on ET Docket No. 97-214 (FCC 97-363) to Allocate 455-456 and 459-460 MHz Bands to Mobile Satellite Service

The University of California (UC) is a nine campus system which has police departments at each campus and noncommercial educational FM radio stations at six campuses. UC is interested in protecting the quality and reliability of transmissions on its adjacent and co-channel public safety land mobile frequencies and broadcast remote pick-up frequencies in the 455-456 and 459-460 MHz bands which the FCC is proposing to allocate to the Mobile Satellite Service on a co-primary basis.

KALX-FM at the University of California at Berkeley illustrates this situation. It uses a remote pick-up (RPU) station at 455.925 MHz for extensive sports, news and music program events as a public service to the greater Berkeley area. Potential interference from Mobile Satellite Service (MSS) operations in the same band could substantially deteriorate the quality of this KALX programming. Even more importantly, if an emergency such as the 1989 Loma Prieta earthquake occurs which impacts the UC Berkeley campus, KALX needs to be able to use its RPU as a backup to its leased telephone company lines for delivering vital public safety information from the UC Berkeley Office of Emergency Preparedness via the KALX transmitter to the campus and community at large.

UC is concerned that there is a very strong likelihood of interference to its RPU transmissions for the following reasons. If only 1% of the projected 40 million MSS users were in the San Francisco Bay Area (the fifth largest broadcast market) where KALX is located, allowing for a 2.5 KHz bandwidth, the entire 455-456 MHz bandwidth would allow only a one-half second transmission per user every thirteen minutes. It is doubtful that this single transmission every thirteen minutes would be sufficient for most users. Because the San Francisco Bay Area is a major metropolitan area, it is likely that the percentage of MSS users in the area could be vastly larger than 1%.

The Commission's proposal indicates the satellite scanning receiver would be able to detect in-use 9.5 mW frequencies at a 2.5 KHz bandwidth and steer MSS users away from these channels. Since many RPU systems have bandwidths up to 100 KHz, extrapolation would indicate a signal of 140 mW would be necessary for detection. Most RPU's have power outputs of less than 15 watts into very directional, often horizontally polarized, transmitting antennas. If the satellite unit was behind the RPU transmitting antenna, it is unlikely that signal would be sufficient for the scanning MSS receiver to detect and declare its frequency's unavailability to the MSS system. Although broadcast RPU frequencies tend to transmit intermittently, they are usually used for long periods of time—sometimes up to six hours. This situation further congests the bandwidth, making the likelihood of harmful interference between the MSS and RPU systems greater. Since the MSS transmissions will occur in short bursts, determining the source of interference will be virtually impossible, making it unlikely that the user could or would take steps to avoid interfering. To assure that the more than 25,000 broadcast auxiliary RPU's operating throughout the United states are adequately protected, UC believes that wording should be inserted into the Commission's Part 74 rules similar to the provisions of paragraphs 72 and 88 of the Commission's IB Docket No. 96-220 Report and

Order which protects the Department of Defense and National Oceanic and Atmospheric Administration (NOAA) co-channel operations.

Recommendation One. Insert in the Part 74 FCC rules: "To protect auxiliary broadcast remote pick-up (RPU) systems, if any Mobile Satellite Service (MSS) system causes unacceptable interference to an RPU system, the Commission will require that MSS system to immediately terminate its interfering operations, wherever located, and the Commission will not hesitate to impose sanctions on the MSS system, including monetary forfeitures and license revocations. Any MSS system operating in the 455-456 MHz band assumes the risk of any liability or damage that it and its directors, officers, employees, affiliates, agents and subcontractors may incur or suffer in connection with an interruption of its non-voice, non-geostationary mobile satellite services (NVNG MSS) in whole or in part arising from or relating to its compliance or noncompliance with this condition."

In California, public safety agencies use the 460.025 MHz channel for a California Law Enforcement Mutual Aid Radio System (CLEMARS) channel for emergency and regular ongoing operations involving multiple public safety agencies. UC's nine police departments use this CLEMARS channel extensively for mutual aid activities with adjacent public safety agencies. To assure that the thousands of fixed and mobile service systems authorized throughout the United States under Parts 22, 80 and 90 of the Commission's Rules, especially public safety land mobile systems, are adequately protected, UC believes that wording similar to the provisions of paragraphs 72 and 88 of the Commission's IB Docket No. 96-220 Report and Order which protects the Department of Defense and NOAA co-channel operations should be inserted into the Commission's Part 22, 80 and 90 Rules.

Recommendation Two. Insert in the Parts 22, 80 and 90 Rules: "To protect terrestrial fixed and mobile systems, if any Mobile Satellite Service (MSS) system causes unacceptable interference to a fixed or mobile system authorized under this Part, the Commission will require that MSS system to immediately terminate its interfering operations, wherever located, and the Commission will not hesitate to impose sanctions on the MSS system, including monetary forfeitures and license revocations. Any MSS system operating in the 459-460 MHz band assumes the risk of any liability or damage that it and its directors, officers, employees, affiliates, agents and subcontractors may incur or suffer in connection with an interruption of its NVNG MSS service in whole or in part arising from or relating to its compliance or noncompliance with this condition."

As a statewide University system responsible for providing undergraduate, graduate and professional education, research and public service throughout the state of California, the University of California is concerned that adequate protections, as outlined in the two recommendations above, be provided when the Commission adds Little LEO (low earth orbit) satellite operations to the same bandwidth as UC uses for RPU and public safety communications.

With regards,

M. Stuart Lynn by Marla Kendall Wibracht

M. Stuart Lynn
Associate Vice President
Information Resources and Communications

Enclosures: 9 copies for FCC dissemination

cc: FCC Commissioners
UC FM Station Managers
UC Telecommunications Managers
UC Police Chiefs
Sarah Avellar